

REMARKS/ARGUMENTS

Claims 1-6, 8-10, 13-32, 34, and 65 are amended, and claims 83-89 are newly added. Claims 7, 33, 35-64, and 66-82 are canceled. Claims 11 and 12 are amended but withdrawn as directed to a non-elected species. Claims 1-6, 8-10, and 13-32, 34, 65, and 83-89 are now actively pending in the application. Applicants respectfully request reexamination and reconsideration of the application.

Claims 1-7 were rejected under 35 USC §112, first paragraph. Figure 1 and the written description of Figure 1, among other portions of the specification, supports claims 1-7. For example, Figure 1 illustrates an exemplary die 100 having bond pads 110 and special contact pads 112. The die 100 includes internal circuits 102, 104, 106, and 108, and special contact pads 112 are directly coupled to a portion of an internal circuit. The bond pads 110 provide input and/or output into and/or out of the die 100 (e.g., specification, pg. 9, lines 5-7.) Therefore, the specification fully supports claims 1-7.

Claims 1, 2, 4-10, 13, 15-27, 29-32, and 65 were rejected under 35 USC § 102(b) as anticipated by US Patent No. 5,506,499 to Puar ("Puar"). Claim 3 was rejected under 35 USC § 103(a) as obvious in view of Puar alone or a combination of Puar and US Patent No. 6,373,143 to Bell ("Bell"). Claims 14 and 34 were rejected under § 103(a) as obvious in view of Puar and US Patent No. 5,613,861 to Smith ("Smith"), and claim 28 was rejected under § 103(a) as obvious in view of Puar and US Patent No. 6,078,083 to Ameraskera ("Ameraskera"). Applicants respectfully traverse these rejections.

Independent claim 1 is directed to a "semiconductor die" that includes traditional bond pads that provide input of signals to and output of signals from the die. As is known in the field, most of the circuitry on a typical semiconductor die is not directly accessible, and the bond pads provide the only input and output to and from the circuitry. The semiconductor die of claim 1, however, includes a special contact pad that provides direct access to otherwise inaccessible internal portions of the circuit on the die. Importantly, the special contact pad is not directly connected electrically to any of the bond pads but is insulated from the bond pads. Thus, while the bond pads provide access to input/output nodes of the circuit on the die, the special contact pad provides access to otherwise inaccessible nodes inside the circuit.

Unlike claim 1 of the instant application, Puar's auxiliary pads 60 are electrically connected directly to the bond pads 58. Puar's auxiliary pads 60 thus do not provide direct

access to internal and normally inaccessible portions of the die circuitry. Rather, Puar provides access to internal circuitry (e.g., embedded memory 52) only through a bond pad 58 and multiplexers 70, 72. It should be noted that Puar's multiplexers 70, 72 require the presence of an extra bond pad 58T for input of a control signal to the multiplexers 70, 72. Because the special contact pads of claim 1 of the instant application are not electrically connected to the bond pads, the special contact pads of claim 1 provide direct access to internal circuitry of the die without the need for multiplexers (e.g., 70, 72 of Puar) or an extra bond pad (e.g., 58T of Puar). Claim 1 of the instant application, therefore, represents an improvement over Puar.

Moreover, Puar provides no suggestion, motivation, or reason to disconnect the auxiliary pads 60 from the bond pads 52. Indeed, the purpose of the auxiliary pads 60 is to save the bond pads 52 from repeated contacts by the probes of a testing system—not to provide a different input path to the die circuitry. (See Puar, col. 2, line 42 through col. 3, line 33; and col. 7, line 10 through col. 8, line 10.)

For all of the foregoing reasons, independent claim 1 patentably distinguishes over Puar, Bell, Smith, and Ameraskera—which are cited only against dependent claims—do not make up for the above-described deficiencies in Puar. Therefore, independent claim 1 patentably distinguishes over Puar, Bell, Smith, and Ameraskera, whether taken singly or in combination.

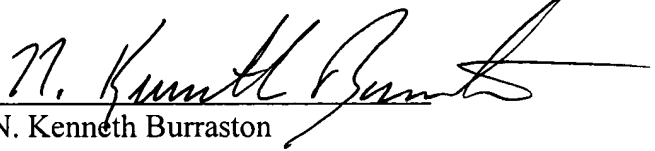
Independent claim 29 includes the requirement that a special contact pad is not electrically connected to bond pads. Therefore, independent claim 29 also patentably distinguishes over Puar, Bell, Smith, and Ameraskera.

Claims 2-6, 8-10, 13-28, 30-32, 34, 65, and 83-89 depend from one of independent claim 1 or independent claim 29 and are therefore also patentable over Puar, Bell, Smith, and Ameraskera. Moreover, claims 2-6, 8-10, 13-28, 30-32, 34, 65, and 83-89 recite additional features that further distinguish over Puar, Bell, Smith, and Ameraskera. For example, new claim 83 includes an electrostatic discharge protection means associated with the special contact pad that is smaller than the electrostatic discharge protection means associated with a bond pad.

In view of the foregoing, Applicants submit that all of the claims are allowable and the application is in condition for allowance. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934.

Respectfully submitted,

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